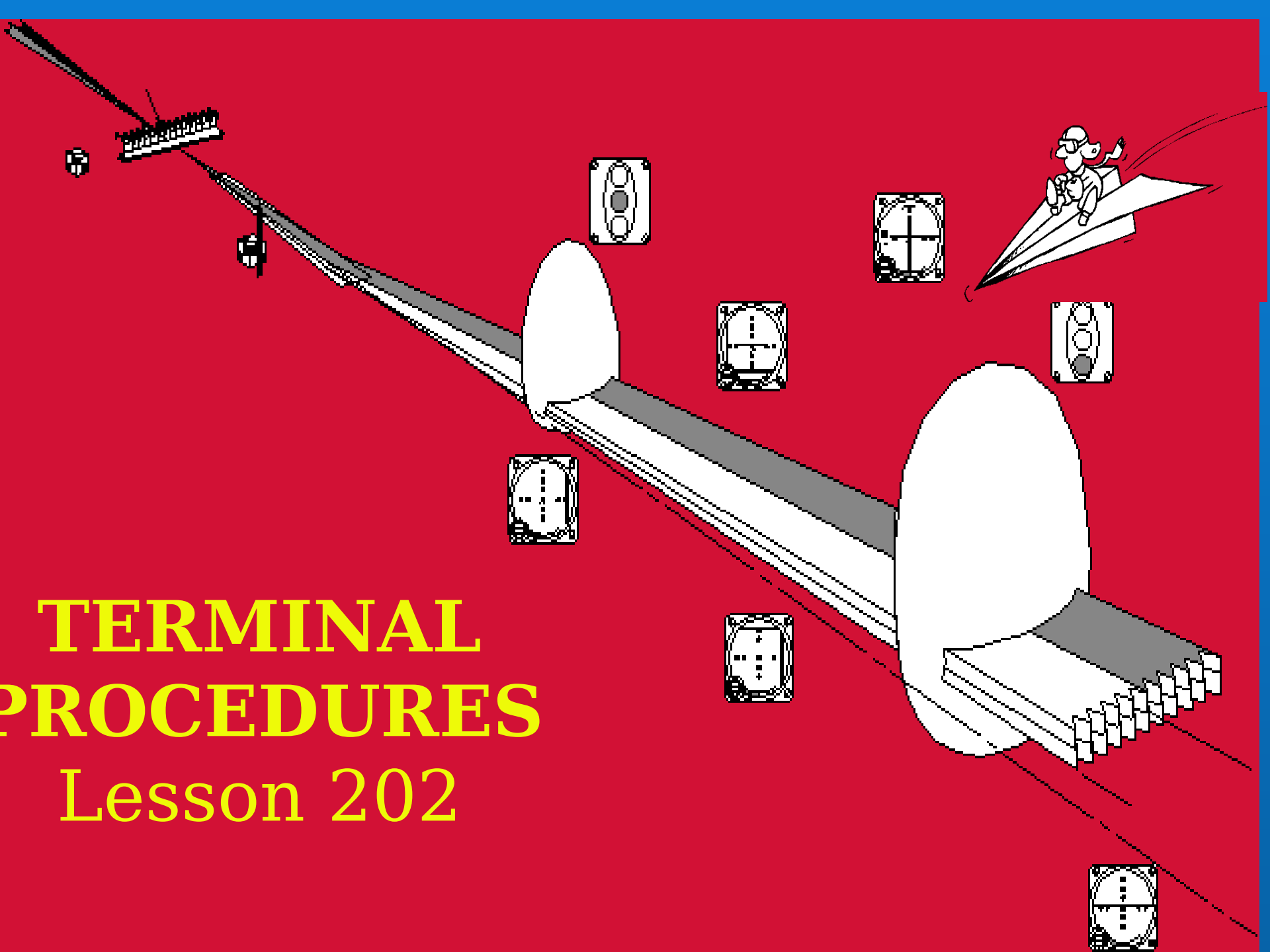

TERMINAL PROCEDURES

Lesson 202

Low Altitude Instrument Approach Plates

DOD
FLIGHT INFORMATION PUBLICATION
(TERMINAL)

VOL-2

LOW ALTITUDE UNITED STATES

AIRPORT DIAGRAMS
INSTRUMENT APPROACH PROCEDURES
MILITARY STANDARD INSTRUMENT DEPARTURES
RADAR INSTRUMENT APPROACH MINIMUMS

EFFECTIVE **20 JUN 96**
TO 15 AUG 96
TCN EFFECTIVE 18 JUL 96

Consult NOTAMS for latest information

PUBLISHED IN ACCORDANCE WITH INTER-AGENCY AIR CARTOGRAPHIC COMMITTEE SPECIFICATIONS AND AGREEMENTS APPROVED BY

DEPARTMENT OF DEFENSE * * DEPARTMENT OF COMMERCE
FEDERAL AVIATION ADMINISTRATION

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RADAR INSTRUMENT APPROACH MIN'S

RADAR INSTRUMENT APPROACH

JACKSONVILLE NAS, (TOWER FIELD) FL (5 JAN 97 USN) ELEV 22

RADAR a - **(E)** 120.0 127.7x 134.1x 266.8x 278.8x 299.6x 305.8x 314.8 315.4x 325.2x 337.2x 354.0x 374.8

RWY	GS/TCH/RPI	DH/ CAT	MDA-VIS	HAT	CEIL-VIS
PAR b 9	3.0 /40/775	ABCDE	**122 - 1/4**	100	(100 - 1/4)
27	3.0 /41/ 746	ABCDE	**113 - 1/4**	100	(100 - 1/4)
PAR 9		ABCD	**360 - 1/4**	338	(400 - 3/4)
W/O GS		E	**360 - 1**	338	(400 - 1)
27		ABCDE	**300 -3/4**	287	(300 - 3/4)
ASR 27 b		AB	**440 - 3/4**	427	(500 - 3/4)
		C	**440 - 1**	427	(500 - 1)
		DE	**440 - 1 1/4**	427	(500 - 1)
9		ABCD	**360 - 3/4**	338	(400 - 3/4)
		E	**360 - 1**	338	(400 - 1)
32		AB	**460 - 1**	449	(500 - 1)
		C	**460 - 1 1/4**	449	(500 - 1 1/4)
CIR 9 - 27		AB	**500 - 1**	478	(500 - 1)
PAR W/O GS		C	**500 - 1 1/2**	478	(500 - 1 1/2)

a No - NOTAM preventive maint schedule:PAR 1200-1600z++ Sat
b When ALS inop, increase vis 1/4 mile.

IFR T/O MIN'S

IFR TAKE-OFF MINIMUMS AND DEPARTURE PROCEDURES

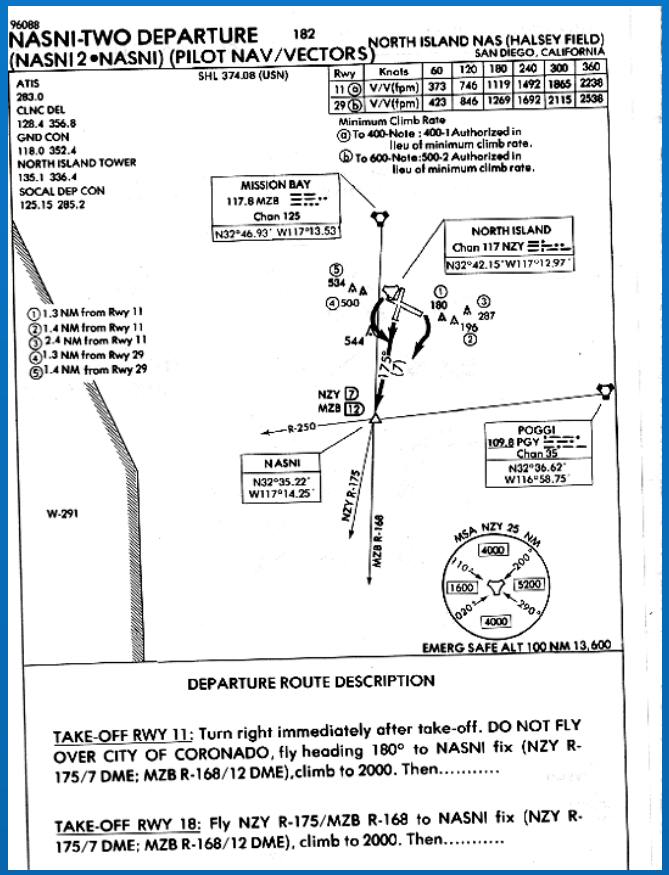
Civil Airports and Selected Military Airports

Civil users: FAR 91 prescribes take-off rules and establishes take-off minimums for certain operators as follows: (1) Aircraft having two engine or less - one statute mile. (2) Aircraft having more than two engines - one-half statute mile.

Airports with IFR take-off minimums other than standard are listed below. Departure procedures and/or ceiling visibility minimums are established to assist all pilots conducting IFR flight in avoiding obstacles during climb to the minimum enroute altitude.

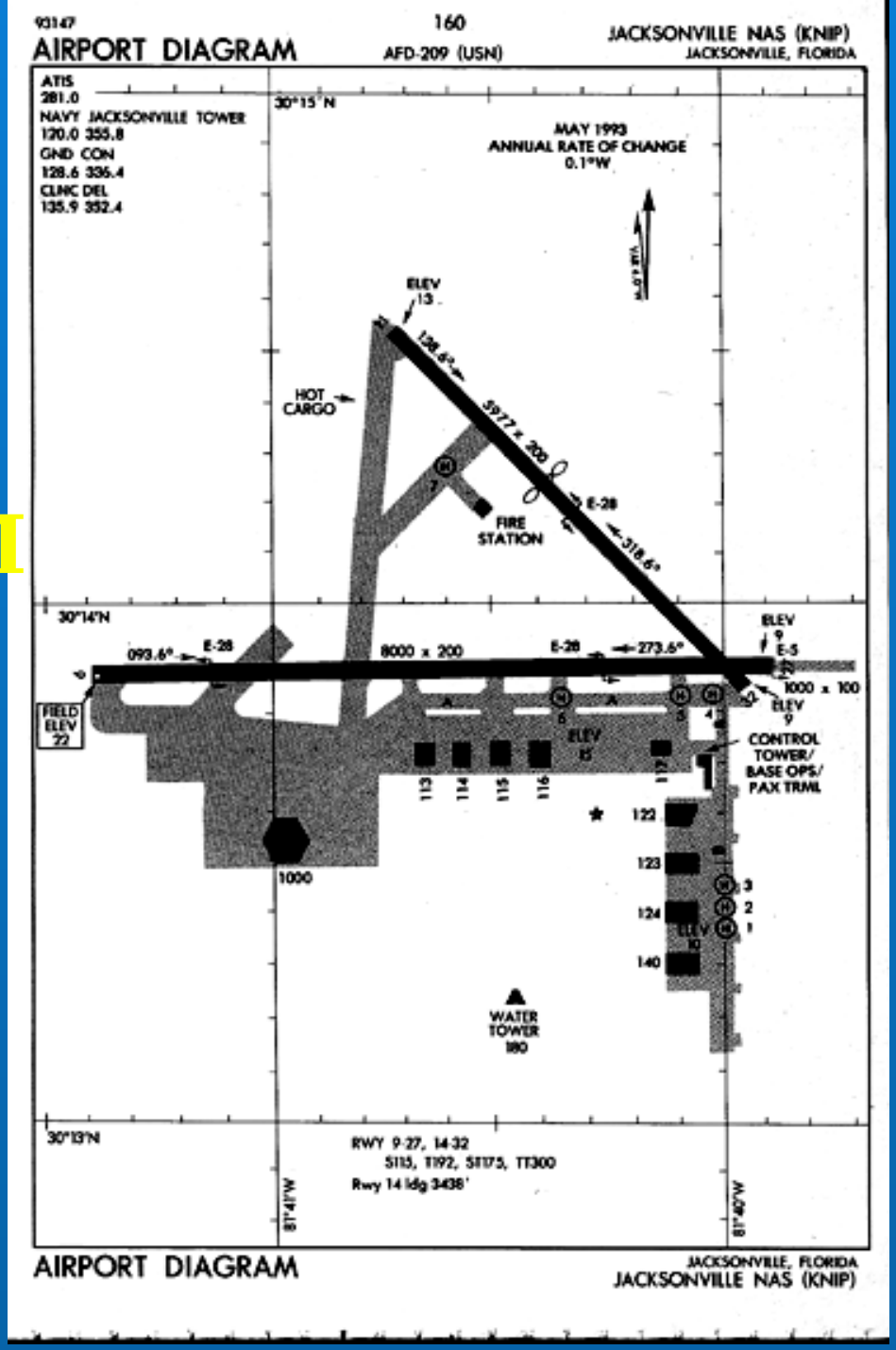
AIRPORT NAME	TAKE-OFF MINIMUMS

STANDARD INSTRUMENT DEPARTURE (SID)

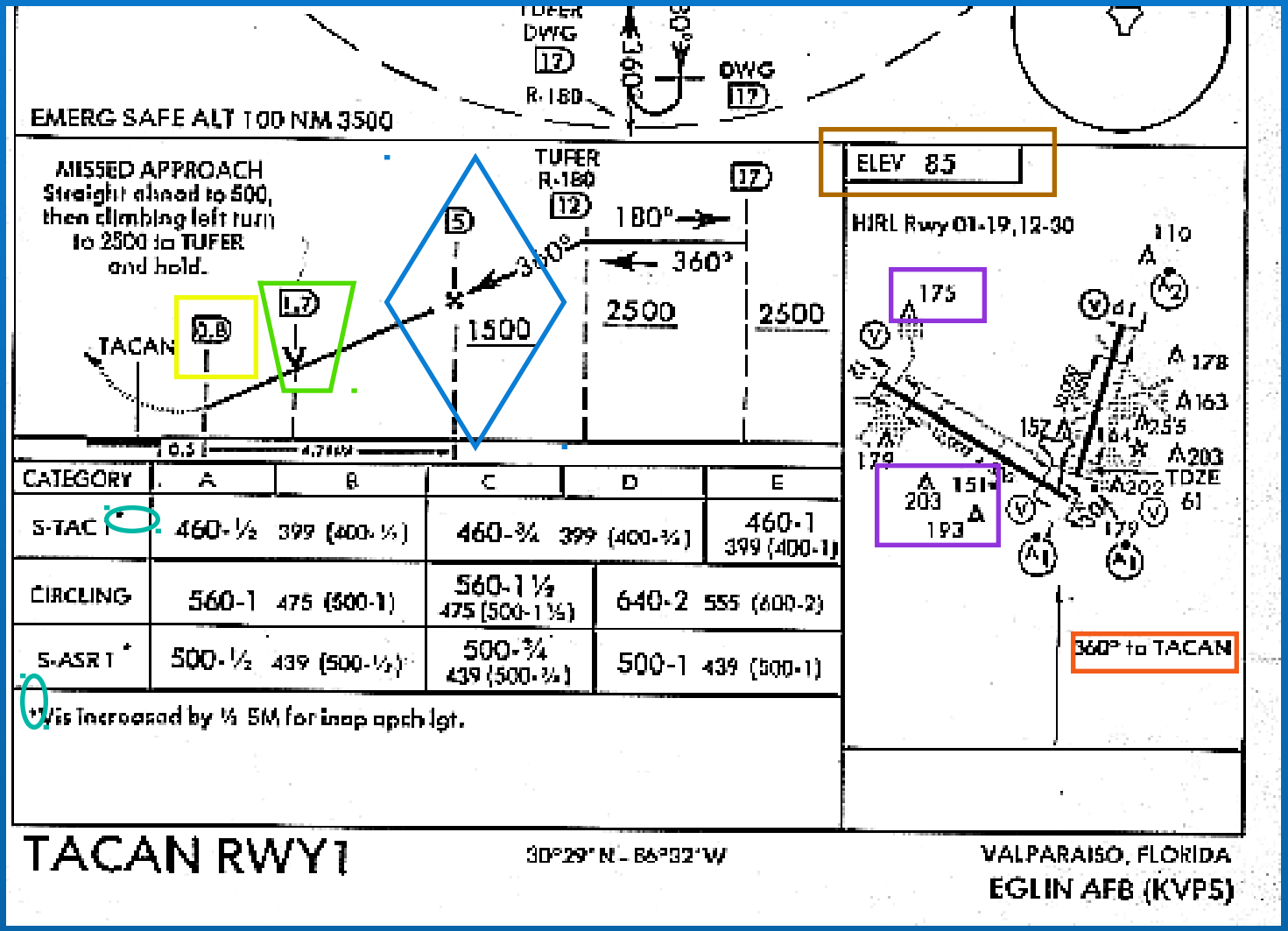


- PILOTS ARE ENCOURAGED TO USE PROVIDING NO FLIGHT DEGRADATION WILL ENSUE
- ALWAYS TERMINATE AT A PUBLISHED FIX/ NAVAID

AIRPORT DIAGRAM



APPROACH PLATE SYMBOLOGY



IFR LANDING MINIMUMS

IFR LANDING MINIMA

Landing minima are established for six aircraft approach categories (ABCDE and COPTER). In the absence of COPTER MINIMA, Helicopters may use the CAT A mins of other procedures. The standard format for portrayal of landing minima is as follows:

INSTRUMENT APPROACH MINIMA
LOW ALTITUDE

AIRCRAFT CATEGORY

DECISION HEIGHT (DH) MSL

PREVAILING VISIBILITY/RVR (RVR IN 100'SFT.

Height of DH above touchdown (HAT)

CATEGORY	A	B	C	D
S-ILS 27	**362/24** 200 (200 - 1/2)			
S-LOC 27	**440/24** 278 (300-1/2)		**440/40** 278 (300-3/4)	
CIRCLING	**520-1** 350 (400-1)	**620-1** 450 (500-1)	**620-1 1/2** 450 (500-1 1/2)	**720-2** 550 (600-2)
S-PAR 27	**262/16** 100 (100-1/4) GS 2.5			

Minimum Descent Altitude

Height of MDA above airport (HAA)

Precision Straight-in to RWY 27

Non-Precision (Localizer) Straight-in to RWY 27

Precision approach Rada Straight-in to RWY 27

Ceiling in feet & revailing Visibility in SM

Height of MDA bove touchdown zone (HAT)

lide Slope Angle

COPTER MINIMA ONLY

CATEGORY	COPTER
H-176	**680-1/2** 363 (400-1/2)

Height of MDA/DH above Landing Area (HAL)

ROC/ROD TABLE

INSTRUMENT TAKE-OFF
RATE OF CLIMB/DESCENT
(ft. per min

A rate of climb/descent table is planning and executing climbs or approximate ground speed relationship between climb/desc that 1 degree equals 100 ft/nm.

CLIMB/ DESCENT ANGLE	CLIMB/ DESCENT GRADIENT FT/NM	GROUND SPEED (knots)				
		60	90	120	150	180
2.0	200	200	300	400	500	600
2.5	250	250	375	500	625	750
3.0	300	300	450	600	750	900

PAR APPROACH
(Precision Approach Radar)

- **Precision - Azimuth, Range, and Elevation provided by controller.**
  - Advisory course and flight path information will be provided by the controller after reaching decision height.

PRECISION APPROACHES

- Execute Missed Approach immediately upon reach DH, unless runway environment is in sight and a safe landing can be made.

- Expect control instructions until over the landing threshold.

ASR APPROACH
(Airport Surveillance Radar)

- **NON Precision -**
  - Azimuth and range information only
  - Must request recommended altitudes on final

NON-PRECISION APPROACH

- **Altitude**- maintain until established on IAP or FEEDER ROUTE.

- **Missed Approach**: 1) Executed only at the MAP
  2) Executed at or above the MDA

- **Missed Approach** shall be executed immediately upon reaching the missed approach point, unless the runway environment is in sight and a safe landing can be made.
  (If visual reference is lost while circling to land, the missed approach for that published procedure must be executed.)

ALTERNATE FILING

D = Destination

R = Route

A = Altitude/Airspeed

F = Fuel on Board (in hrs. & min.)

T = Time Enroute

SIMULATED INSTRUMENT APPROACH

- A simulated approach to an airport with an approved procedure, shall not be commenced without prior approval from approach control.
  - If no approach control, then tower will give approval.
  - At non-tower airports, the associated FSS shall be notified of the simulated approach.

STANDARD TERMINAL ARRIVALS (STAR)

- Arrival route to simplify clearance delivery procedures.
  - STAR’s will only be issued to military pilots when requested.

CONTACT APPROACH

- **Pilot:**
  - Operating IAW IFR flight plan
  - One mile vis & clear of clouds
  - Must request the approach
  - Responsible for obstruction clearance
- **Controller**
  - Approach made to airport w/ an IAP
  - Separation from other IFR aircraft
  - Terminate radar services when told to contact tower

VISUAL APPROACH

- **PILOT**
  - IFR procedure conducted in VMC conditions
    - Airport must be reporting 1000/3 or greater
  - Must have airport or preceding aircraft in sight
  - Pilot assumes responsibility for obstruction clearance.
- **Controller**
  - Provide separation from other IFR aircraft
  - Radar services terminated when told to contact tower.

HELICOPTERS IN CLASS B,C, or D AIRSPACE

- **Tower** frequency or appropriate control freq will be monitored at all times.
- **Autorotations:** Practice Auto's shall be within field boundaries over safe surface.
- **Altitude:** Shall be in accordance w/ base ops manual. (If no other guidance, do not exceed 500 AGL unless cleared by tower.)
- **Avoid:** flying over areas where rotor wash could result in FOD hazards.

AIRFIELD LIGHTING

- Airports and Heliports are identified by Rotating Beacons.
- White/Green = Lighted Land
- White / Yellow = Lighted Water
- Green / Yellow / White Lighted Heliport
- Green with Split White = Military

PILOT CONTROLLED LIGHTING

- Aircraft controlled via radios. (all runways are on same frequency)
- Some VASI lights are photocell controlled.
- 3, 5, or 7 Clicks
- Operates for 15 minutes after initiation, additional clicks extend the timer.
- Only controllable ON not OFF.

VISUAL APPROACH SLOPE INDICATOR

2 Bar

- Normally 3 degrees Red over White

VISUAL GLIDE SLOPE INDICATOR

- 3 Bar

Red over White over White = 3 1/4 degrees

Red over Red over White = 3 degrees

VISUAL GLIDE SLOPE INDICATOR

- 4 Bar

All White = Above

Red --White -- White -- White = Slightly High

Red -- Red -- White -- White = On

Red -- Red --Red -- White = Slightly Low

Red -- Red -- Red -- Red = Below

VISUAL GLIDE SLOPE INDICATOR

- Tri Color

Amber = Above

Green = On Glide Slope

Red = Below Glide Slope

PRECISION APPROACH PATH INDICATOR

- FOUR LIGHTS ARRANGED HORIZONTALLY
- RED AND WHITE

Interpret same as four bar VASI

Pulsating Visual Approach Slope Indicator

- Pulsating White = Above Glide Path
- Steady White = On Glide Path
- Steady Red = Slightly Below Glide Path
- Pulsating Red = Below Glide Path

Element Alignment Glide Path

- Used on aircraft Carriers (call the ball)
- Used on runways, sometimes not even lights but just painted plywood panels.
- Black, White, Fluorescent Orange
- Center panel appears low = Below
- Center panel aligns with others = On
- Center panel appears high = High

THE END
LESSON 202